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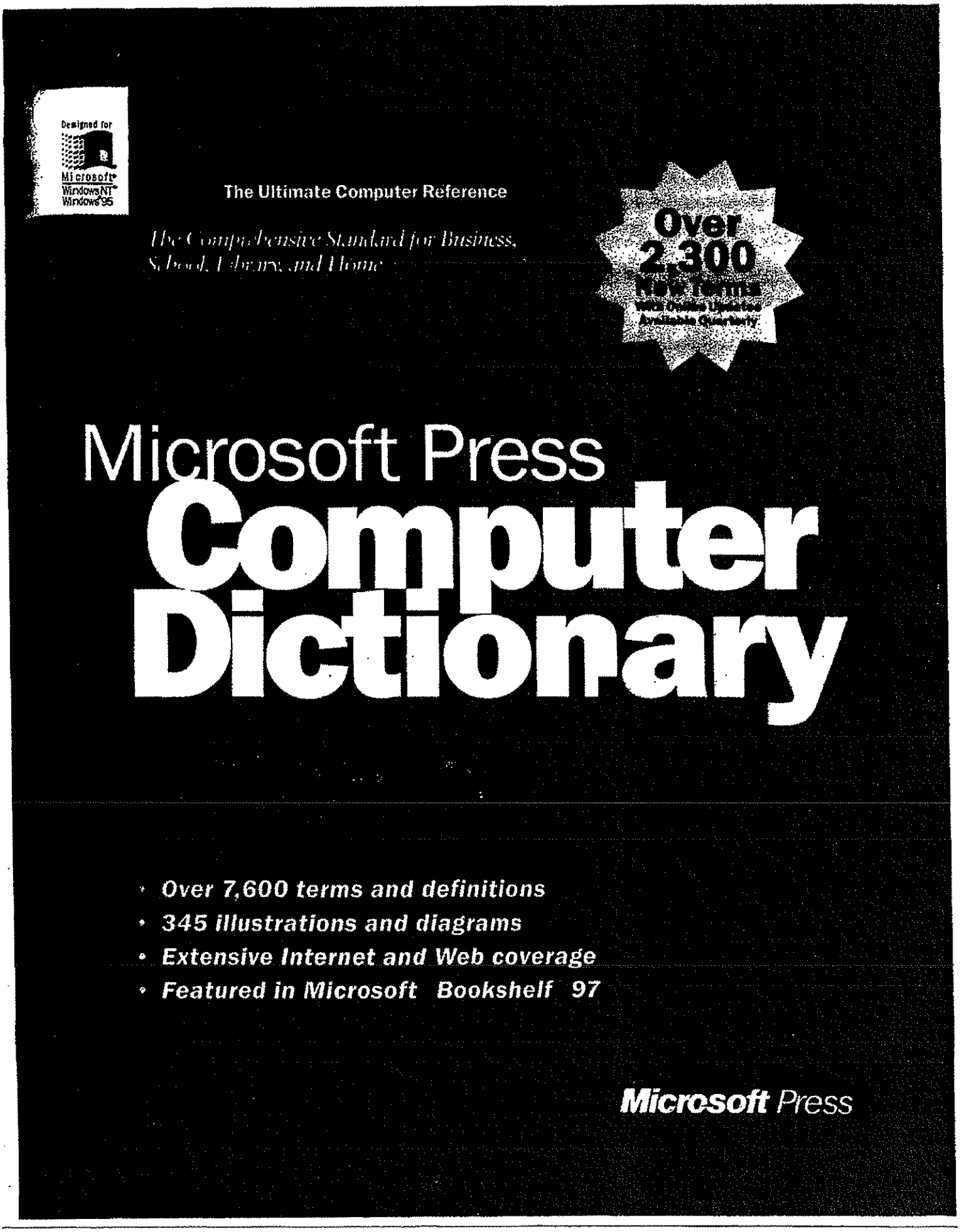
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information being accessed. Still others base their charges on the number of time units used, the time or distance involved per connection, the bandwidth of each connected session, or some combination of the preceding criteria. *See also* connect time.

connection \kə-nek´shən\ *n.* A physical link via wire, radio, fiber-optic cable, or other medium between two or more communications devices.

connectionless \kə-nek´shən-ləs\ *adj.* In communications, of, pertaining to, or characteristic of a method of data transmission that does not require a direct connection between two nodes on one or more networks. Connectionless communication is achieved by passing, or routing, data packets, each of which contains a source and destination address, through the nodes until the destination is reached. *See also* node (definition 2), packet (definition 2). *Compare* connection-oriented.

connection-oriented \kə-nek´shən-ōr`ē-ent-əd\ *adj.* In communications, of, pertaining to, or characteristic of a method of data transmission that requires a direct connection between two nodes on one or more networks. *Compare* connectionless.

connectivity \kə-nek`tiv´ə-tē\ *n.* **1.** The nature of the connection between a user's computer and another computer, such as a server or a host computer on the Internet or a network. This may describe the quality of the circuit or telephone line, the degree of freedom from noise, or the bandwidth of the communications devices. **2.** The ability of hardware devices or software packages to transmit data between other devices or packages. **3.** The ability of hardware devices, software packages, or a computer itself to work with network devices or with other hardware devices, software packages, or a computer over a network connection.

connectoid \kə-nek´toid`\ *n.* In Windows 95 and Windows NT, an icon representing a dial-up networking connection that will also execute a script for logging onto the network dialed.

connector \kə-nek´tər`\ *n.* **1.** In hardware, a coupler used to join cables or to join a cable to a device (for example, an RS-232-C connector used to join a modem cable to a computer). Most connector types are available in one of two genders—male or female. A male connector is characterized by one or more exposed pins; a female connector is characterized by one or more receptacles designed to accept the pins on the male connector. *See also* DB connector, DIN connector. **2.** In programming, a circular symbol used in a flowchart to indicate a break, as to another page.

connect time \kə-nekt´ tīm`\ *n.* The amount of time during which a user is actively connected to a remote computer. On commercial systems, the connect time is one means of calculating how much money the user must pay for using the system. *See also* connect charge.

consistency check \kən-si´stən-sē chek`\ *n.* A survey to verify that items of data conform to certain formats, bounds, and other parameters and are not internally contradictory. *Compare* completeness check.

console \kon´sōl\ *n.* A control unit, such as a terminal, through which a user communicates with a computer. In microcomputers, the console is the cabinet that houses the main components and controls of the system, sometimes including the screen, the keyboard, or both. With the MS-DOS operating system, the console is the primary input (keyboard) and primary output (screen) device, as evidenced by the device name, CON. *See also* CON, system console.

constant \kon´stənt\ *n.* A named item that retains a consistent value throughout the execution of a program, as opposed to a variable, which can have its value changed during execution. *Compare* variable.

constant expression \kon`stənt eks-presh´ən\ *n.* An expression that is composed only of constants and, hence, whose value does not change during program execution. *Compare* variable expression.

constellation \kon`stə-lā´shən\ *n.* In communications, a pattern representing the possible states of a carrier wave, each of which is associated with a particular bit combination. A constellation shows the number of states that can be recognized as unique changes in a communications signal and thus the maximum number of bits that can be encoded in a single change (equivalent to 1 baud, or one event). See the illustration.

constraint \kən-strānt´\ *n.* In programming, a restriction on the solutions that are acceptable for a problem.

designated output destination. A database filter, for example, might flag information of a certain age. **2.** In communications and electronics, hardware or software that selectively passes certain elements of a signal and eliminates or minimizes others. A filter on a communications network, for example, must be designed to transmit a certain frequency but attenuate (dampen) frequencies above it (a low-pass filter), those below it (a highpass filter), or those above and below it (a bandpass filter). **3.** A pattern or mask through which data is passed to weed out specified items. For instance, a filter used in e-mail or in retrieving newsgroup messages can allow users to filter out messages from other users. *See also* e-mail filter, mask. **4.** In computer graphics, a special effect or production effect that is applied to bitmapped images; for example, shifting pixels within an image, making elements of the image transparent, or distorting the image. Some filters are built into a graphics program, such as a paint program or an image editor. Others are separate software packages that plug into the graphics program. *See also* bitmapped graphics, image editor, paint program.

filtering program \fil´tər-ēng prō˘gram\ *n.* A program that filters information and presents only results that match the qualifications defined in the program.

FilterKeys \fil´tər-kēz˘\ *n.* A Windows 95 accessibility control panel feature that enables users with physical disabilities to use the keyboard. With FilterKeys, the system ignores brief and repeated keystrokes that result from slow or inaccurate finger movements. *See also* accessibility. *Compare* MouseKeys, ShowSounds, SoundSentry, StickyKeys, ToggleKeys.

Final-Form-Text DCA \fī˘nəl-fōrm-tekst˘ D-C-A´\ *n.* A standard in Document Content Architecture (DCA) for storing documents in ready-to-print form for interchange between dissimilar programs. A related standard is Revisable-Form-Text DCA (RFTDCA). *Acronym:* FFTDCA (F˘F-T˘D-C-A˘). *See also* DCA (definition 1). *Compare* Revisable-Form-Text DCA.

find \fīnd\ *vb. See* search[2].

Finder \fīn´dər\ *n.* The standard interface to the Macintosh operating system, allowing the user to view the contents of directories (folders); to move, copy, and delete files; and to launch applications. Items in the system are often represented as icons, and a mouse or similar pointing device is used to manipulate these items. The Finder was the first commercially successful graphical user interface, and it helped launch a wave of interest in icon-based systems. *See also* MultiFinder.

finger[1] \fēng´ər\ *n.* An Internet utility, originally limited to UNIX but now available on many other platforms, that enables a user to obtain information on other users who may be at other sites (if those sites permit access by finger). Given an e-mail address, finger returns the user's full name, an indication of whether or not the user is currently logged on, and any other information the user has chosen to supply as a profile. Given a first or last name, finger returns the logon names of users whose first or last names match.

finger[2] \fēng´ər\ *vb.* To obtain information on a user by means of the finger program.

fingerprint reader \fēng´-ər-print rē˘dər\ *n.* A scanner that reads human fingerprints for comparison to a database of stored fingerprint images.

FIPS \fips, F˘I-P-S´\ *n. See* Federal Information Processing Standards.

firewall \fīr´wäl\ *n.* A security system intended to protect an organization's network against external threats, such as hackers, coming from another network, such as the Internet. A firewall prevents computers in the organization's network from communicating directly with computers external to the network and vice versa. Instead, all communication is routed through a proxy server outside of the organization's network, and the proxy server decides whether it is safe to let a particular message or file pass through to the organization's network.

firmware \fərm´wâr\ *n.* Software routines stored in read-only memory (ROM). Unlike random access memory (RAM), read-only memory stays intact even in the absence of electrical power. Startup routines and low-level input/output instructions are stored in firmware. It falls between software and hardware in terms of ease of modification. *See also* RAM, ROM.

FIR port \F˘I-R´ pōrt\ *n.* Short for **fast infrared port**. A wireless I/O port, most common on a portable computer, that exchanges data with an

and higher microprocessors to control access to privileged functions, to change data segments, or to switch tasks.

gate array \gāt´ ər-ā`\ *n.* A special type of chip that starts out as a nonspecific collection of logic gates. Late in the manufacturing process, a layer is added to connect the gates for a specific function. By changing the pattern of connections, the manufacturer can make the chip suitable for many needs. This process is very popular because it saves both design and manufacturing time. The drawback is that much of the chip goes unused. *Also called* application-specific integrated circuit, logic array.

gated \gā´təd\ *adj.* **1.** Transmitted through a gate to a subsequent electronic logic element. **2.** Transmitted through a gateway to a subsequent network or service. For example, a mailing list on BITNET may be gated to a newsgroup on the Internet.

gate electrode \gāt´ ə-lek`trōd\ *n. See* gate (definition 2).

gateway \gāt´wā\ *n.* A device that connects networks using different communications protocols so that information can be passed from one to the other. A gateway both transfers information and converts it to a form compatible with the protocols used by the receiving network. *Compare* bridge.

gating circuit \gā´tēng sər`kət\ *n.* An electronic switch whose output is either on or off, depending on the state of two or more inputs. For example, a gating circuit may be used to pass or not pass an input signal, depending on the states of one or more control signals. A gating circuit can be constructed from one or more logic gates. *See also* gate (definition 1).

.ga.us \dot-G-A`dot-U-S´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Georgia, United States.

.gb \dot`G-B´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Great Britain.

GB \gig´ə-bīt`, jig´ə-bīt`, G-B´\ *n. See* gigabyte.

Gbps \G`B-P-S´\ *n. See* gigabits per second.

.gd \dot`G-D´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Grenada.

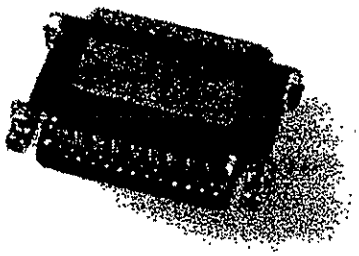
GDI \G`D-I´\ *n.* Acronym for Graphical Device Interface. In Microsoft Windows, a graphics display system used by applications to display or print bitmapped text (TrueType fonts), images, and other graphical elements. The GDI is responsible for drawing dialog boxes, buttons, and other elements in a consistent style on screen by calling the appropriate screen drivers and passing them the information on the item to be drawn. The GDI also works with GDI printers, which have limited ability to prepare a page for printing. Instead, the GDI handles that task by calling the appropriate printer drivers and moving the image or document directly to the printer, rather than reformatting the image or document in PostScript or another printer language. *See also* bitmapped font, dialog box, driver, PostScript.

.ge \dot`G-E´\ *n.* On the Internet, the major geographic domain specifying that an address is located in the republic of Georgia.

geek \gēk\ *n.* **1.** Generally, a person who enjoys cerebral activities (such as wordplay, computer programming, and use of the Internet) more than the mainstream population does. Geeks in this sense increasingly claim the word with pride, but it may give offense when used by others, suggesting inadequacy in normal social relationships. **2.** A computer expert or specialist. For issues of etiquette, see definition 1. *Compare* guru, techie.

gender bender \jen´dər ben`dər\ *n. See* gender changer.

gender changer \jen´dər chān`jər\ *n.* A device for joining two connectors that are either both male (having pins) or both female (having sockets). See the illustration. *Also called* gender bender.



Gender changer.

operating system and resides there for as long as the computer is on. *Compare* external command.

internal font \in-tər'nəl font'\ *n.* A font that is already loaded in a printer's memory (ROM) when the printer is shipped. *Compare* downloadable font, font cartridge.

internal interrupt \in-tər'nəl in'tər,ŭpt\ *n.* An interrupt generated by the processor itself in response to certain predefined situations, such as an attempt to divide by zero or an arithmetic value exceeding the number of bits allowed for it. *See also* interrupt. *Compare* external interrupt.

internal memory \in-tər'nəl mem'ər-ē\ *n. See* primary storage.

internal modem \in-tər'nəl mō'dəm\ *n.* A modem constructed on an expansion card to be installed in one of the expansion slots inside a computer. *Compare* external modem, integral modem.

internal schema \in-tər'nəl skē'mə\ *n.* A view of information about the physical files composing a database, including filenames, file locations, accessing methodology, and actual or potential data derivations, in a database model such as that described by ANSI/X3/SPARC, that supports a three-schema architecture. The internal schema corresponds to the schema in systems based on CODASYL/DBTG. In a distributed database, there may be a different internal schema at each location. *See also* conceptual schema, schema.

internal sort \in-tər'nəl sōrt'\ *n.* **1.** A sorting operation that takes place on files completely or largely held in memory rather than on disk during the process. **2.** A sorting procedure that produces sorted subgroups of records that will be subsequently merged into one list.

International Federation of Information Processing \in-tər-nash'ə-nəl fed-ər-ā'shən əv in-fər-mā'shən pros'es-iŋg\ *n. See* IFIP.

International Organization for Standardization \in-tər-nash'ə-nəl ōr-gə-nə-zā'shən fōr stan'dər-də-zā'shən\ *n. See* ISO.

International Telecommunications Union \in-tər-nash'ə-nəl tel'ə-kə-myōō-nə-kā'shənz yōōn-'yən\ *n.* An intergovernmental organization responsible for making recommendations and standardization regarding telephone and data communications systems for public and private telecommunication organizations. The ITU was founded in 1865 and became an agency of the United Nations in 1947. The ITU was formerly known as CCITT (Comité Consultatif International Télégraphique et Téléphonique) and changed its name to ITU in March 1993. They may be contacted at International Telecommunications Union, Information Services Department, Place des Nations, 1211 Geneva 20, Switzerland. Telephone: +41 (22) 730 5554. Fax: +41 (22) 730 5337. E-mail: helpdesk@itu.ch, teledoc@itu.arcom.ch. *Acronym:* ITU (I'T-U').

International Telegraph and Telephone Consultative Committee \in'tər-nash'ə-nəl tel'ə-graf and tel'ə-fōn kən-sul'tə-tiv kə-mit'ē, kon'sul-tā-tiv\ *n. See* CCITT.

Internaut \in'tər-nät', in'tər-nôt'\ *n. See* cybernaut.

internet \in'tər-net\ *n.* Short for internetwork. A set of computer networks that may be dissimilar and are joined together by means of gateways that handle data transfer and conversion of messages from the sending networks' protocols to those of the receiving network.

Internet \in'tər-net\ *n.* The worldwide collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational, and other computer systems, that route data and messages. One or more Internet nodes can go off line without endangering the Internet as a whole or causing communications on the Internet to stop, because no single computer or network controls it. The genesis of the Internet was a decentralized network called ARPANET created by the Department of Defense in 1969 to facilitate communications in the event of a nuclear attack. Eventually other networks, including BITNET, Usenet, UUCP, and NSFnet, were connected to ARPANET. Currently, the Internet offers a range of services to users, such as FTP, e-mail, the World Wide Web, Usenet news, Gopher, IRC, telnet, and others. *Also called* the Net. *See also* BITNET, FTP[1] (definition 1), Gopher, IRC, NSFnet, telnet[1], Usenet, UUCP, World Wide Web.

tion, ion-deposition printers tend to produce thick, slightly fuzzy characters; the technology is also more expensive than that of a laser printer. *See also* electrophotographic printers, nonimpact printer, page printer. *Compare* laser printer, LCD printer, LED printer.

I/O port \I-O´ pōrt`\ *n.* *See* input/output port.

I/O processor \I-O´ pros`es-ər\ *n.* *See* input/output processor.

IO.SYS \ī´ō-sis`, I-O`dot-S-Y-S`\ *n.* One of two hidden system files installed on an MS-DOS startup disk. IO.SYS in IBM releases of MS-DOS (called IBMBIO.COM) contains device drivers for peripherals such as the display, keyboard, floppy disk drive, hard disk drive, serial port, and real-time clock. *See also* MSDOS.SYS.

IP \I-P´\ *n.* Acronym for **Internet Protocol**. The protocol within TCP/IP that governs the breakup of data messages into packets, the routing of the packets from sender to destination network and station, and the reassembly of the packets into the original data messages at the destination. IP corresponds to the network layer in the ISO/OSI model. *See also* ISO/OSI model, TCP/IP. *Compare* TCP.

IP address \I-P´ a`dres, ə-dres`\ *n.* Short for **Internet Protocol address.** A 32-bit (4-byte) binary number that uniquely identifies a host (computer) connected to the Internet to other Internet hosts, for the purposes of communication through the transfer of packets. An IP address is expressed in "dotted quad" format, consisting of the decimal values of its 4 bytes, separated with periods; for example, 127.0.0.1. The first 1, 2, or 3 bytes of the IP address, assigned by InterNIC Registration Services, identify the network the host is connected to; the remaining bits identify the host itself. The 32 bits of all 4 bytes together can signify almost 2^{32}, or roughly 4 billion, hosts. (A few small ranges within that set of numbers are not used.) *See also* host, InterNIC, IP, packet (definition 2). *Compare* domain name.

IPC \Ī´P-C´\ *n.* *See* interprocess communication.

IPL \Ī´-P-L´\ *n.* *See* initial program load.

IP multicasting \I-P` mul`tē-kas´tēng, mul`tī-kas´tēng\ *n.* Short for **Internet Protocol multicasting.** The extension of local area network multicasting technology to a TCP/IP network. Hosts send and receive multicast datagrams, the destination fields of which specify IP host group addresses rather than individual IP addresses. A host indicates that it is a member of a group by means of the Internet Group Management Protocol. *See also* datagram, Internet Group Membership Protocol, IP, MBONE, multicasting.

IPng \Ī´pēng, Ī`P-N-G´\ Acronym for **Internet Protocol next generation.** A version of Internet Protocol (IP) developed by the Internet Engineering Task Force (IETF). Improvements over the original Internet Protocol include better security and an increased IP address size of 16 bytes. *See also* IETF, IP, IP address.

IP spoofing \I-P´ spōō`fēng\ *n.* The act of inserting a false sender IP address into an Internet transmission in order to gain unauthorized access to a computer system. *See also* IP address, spoofing.

IP switching \I-P´ swich`ēng\ *n.* A technology developed by Ipsilon Networks (Sunnyvale, Calif.) that enables a sequence of IP packets with a common destination to be transmitted over a high-speed, high-bandwidth Asynchronous Transfer Mode (ATM) connection.

IPv6 \Ī´P-V-siks´\ *n.* Short for **Internet Protocol version 6.** A proposed next generation for the Internet Protocol, currently version 4, which was introduced in September 1995 by the Internet Engineering Task Force and formerly known as IPng. *See also* IP, IPng.

IPX \Ī´P-X´\ *n.* Acronym for **Internetwork Packet Exchange.** The protocol in Novell NetWare that governs addressing and routing of packets within and between LANs. IPX packets can be encapsulated in Ethernet packets or Token Ring frames. IPX operates at ISO/OSI levels 3 and 4 but does not perform all the functions at those levels. In particular, IPX does not guarantee that a message will be complete (no lost packets); SPX has that job. *See also* Ethernet (definition 1), packet, Token Ring network. *Compare* SPX (definition 1).

IPX/SPX \Ī´P-X-S´P-X\ *n.* The network and transport level protocols used by Novell NetWare, which together correspond to the combination of TCP and IP in the TCP/IP protocol suite. *See also* IPX, SPX (definition 1).

.iq \dot`I-Q´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Iraq.

.ir \dot`I-R´\ *n.* graphic domain located in Iran.

IR \I-R´\ *n.* *See* in

IRC \Ī´R-C´\ *n.* A service that enab in a conversatio users. An IRC cha transmits the text the channel to al channel. Genera ticular topic, wh nel's name. An currently active a channel, and th words on indiv respond. IRC w Oikarinen of Fir 2), server (defin

IrDA \ər´də, Ī´R- tion.

IRG \Ī´R-G´\ *n.*

IRGB \Ī´R-G-B´\ Green Blue. A used in IBM's C continued in Adapter) and V standard 3-bit eight colors) is (called Intensit intensity of the r ing in a total of

IRL \Ī´R-L´\ *n.* A sion used by ma side the comput with virtual wc MUDs, and vir talker, virtual re

IRQ \Ī´R-Q´\ *n.* One of a set of j tified by a num number of the handler will be 15 IRQs are ava ture, 255 IRQs hardwired or se VL bus and the rupt systems, w

P \pet´ə\ *prefix See* peta-.

P5 \P-fīv´\ *n.* Intel Corporation's internal working name for the Pentium microprocessor. Although it was not intended to be used publicly, the name P5 leaked out to the computer-industry trade press and was commonly used to reference the microprocessor before it was released. *See also* 586, Pentium.

.pa \dot`P-A´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Panama.

pack \pak\ *vb.* To store information in a more compact form. Packing eliminates unnecessary spaces and other such characters and may use other special methods of compressing data as well. It is used by some programs to minimize storage requirements.

package \pak´əj\ *n.* **1.** A computer application consisting of one or more programs created to perform a particular type of work—for example, an accounting package or a spreadsheet package. **2.** In electronics, the housing in which an electronic component is packaged. *See also* DIP.

packaged software \pak`əjd soft´wâr\ *n.* A software program sold through a retail distributor, as opposed to custom software. *Compare* canned software.

packed decimal \pakd` des´ə-məl\ *adj.* A method of encoding decimal numbers in binary form that maximizes storage space by using each byte to represent two decimal digits. When signed decimal numbers are stored in packed decimal format, the sign appears in the rightmost four bits of the rightmost (least significant) byte.

packet \pak´ət\ *n.* **1.** A unit of information transmitted as a whole from one device to another on a network. **2.** In packet-switching networks, a transmission unit of fixed maximum size that consists of binary digits representing both data and a header containing an identification number, source and destination addresses, and sometimes error-control data. *See also* packet switching.

packet assembler/disassembler \pak`ət ə-sem`-blər-dis´ə-sem-blər\ *n.* An interface between non-packet-switching equipment and a packet-switching network. *Acronym:* PAD (P`A-D`).

packet filtering \pak´ət fil`tər-ēng\ *n.* The process of controlling network access based on IP addresses. Firewalls will often incorporate filters that allow or deny users the ability to enter or leave a local area network. Packet filtering is also used to accept or reject packets such as e-mail, based on the origin of the packet to ensure security on a private network. *See also* firewall, IP address, packet (definition 1).

Packet Internet Groper \pak`ət in´tər-net grō`-pər\ *n. See* ping[1] (definition 1).

packet switching \pak´ət swich`ēng\ *n.* A message-delivery technique in which small units of information (packets) are relayed through stations in a computer network along the best route available between the source and the destination. A packet-switching network handles information in small units, breaking long messages into multiple packets before routing. Although each packet may travel along a different path, and the packets composing a message may arrive at different times or out of sequence, the receiving computer reassembles the original message correctly. Packet-switching networks are considered to be fast and efficient. To manage the tasks of routing traffic and assembling/disassembling packets, such a network requires some "intelligence" from the computers and software that control delivery. The Internet is an example of a packet-switching network. Standards for packet switching on networks are documented in the CCITT recommendation X.25.

packing density \pak´ēng den`sə-tē\ *n.* The number of storage units per length or area of a

presents the user with a tabbed, index-card-like selection of property pages, each of which features standard dialog-style controls for customizing parameters.

proportional font \prə-pōr´shən-əl font`\ *n.* A set of characters in a particular style and size in which a variable amount of horizontal space is allotted to each letter or number. In a proportional font, the letter *i*, for example, is allowed less space than the letter *m*. *Compare* monospace font.

proportional spacing \prə-pōr`shən-əl spā´sēng\ *n.* A form of character spacing in which the horizontal space each character occupies is proportional to the width of the character. The letter *w*, for example, takes up more space than the letter *i*. *Compare* monospacing.

proprietary \prə-prī´ə-târ-ē\ *adj.* Of, pertaining to, or characteristic of something that is privately owned. Generally, the term refers to technology that has been developed by a particular corporation or entity, with specifications that are considered by the owner to be trade secrets. Proprietary technology may be legally used only by a person or entity purchasing an explicit license. Also, other companies are unable to duplicate the technology, both legally and because its specifications have not been divulged by the owner. *Compare* public domain.

proprietary software \prə-prī´ə-târ-ē soft´wâr\ *n.* A program owned or copyrighted by an individual or a business and available for use only through purchase or by permission of the owner. *Compare* public-domain software.

protected mode \prə-tek´təd mōd`\ *n.* An operating mode of the Intel 80286 and higher microprocessors that supports larger address spaces and more advanced features than real mode. When started in protected mode, these CPUs provide hardware support for multitasking, data security, and virtual memory. The Windows NT and OS/2 operating systems run in protected mode, as do most versions of UNIX for these microprocessors. *Compare* real mode.

protocol \prō´tə-kol`\ *n. See* communications protocol.

protocol layer \prō´tə-kol lā`ər, lâr`\ *n. See* layer.

protocol stack \prō´tə-kol stak`\ *n.* The set of protocols that work together on different levels to enable communication on a network. For example, TCP/IP, the protocol stack on the Internet, incorporates more than 100 standards including FTP, IP, SMTP, TCP, and Telnet. *Also called* protocol suite. *See also* ISO/OSI model.

protocol suite \prō´tə-kol swēt`\ *n. See* protocol stack.

prototyping \prō´tə-tī`pēng\ *n.* The creation of a working model of a new computer system or program for testing and refinement. Prototyping is used in the development of both new hardware and software systems and new systems of information management. Tools used in the former include both hardware and support software; tools used in the latter can include databases, screen mockups, and simulations that, in some cases, can be developed into a final product.

proxy \proks´ē\ *n. See* proxy server.

proxy server \proks´ē sər`vər\ *n.* A firewall component that manages Internet traffic to and from a local area network (LAN) and can provide other features, such as document caching and access control. A proxy server can improve performance by supplying frequently requested data, such as a popular Web page, and can filter and discard requests that the owner does not consider appropriate, such as requests for unauthorized access to proprietary files. *See also* firewall.

PrtSc key \print´ skrēn kē`\ *n. See* Print Screen key.

.ps \dot`P-S´\ *n.* The file extension that identifies PostScript printer files. *See also* PostScript.

PS/2 bus \P`S-tōō´ bus\ *n. See* Micro Channel Architecture.

psec \pī´kō-sek`ənd\ *n. See* picosecond.

pseudocode \sōō´dō-kōd`\ *n.* **1.** Abbreviated p-code. A machine language for a nonexistent processor (a pseudomachine). Such code is executed by a software interpreter. The major advantage of p-code is that it is portable to all computers for which a p-code interpreter exists. The p-code approach has been tried several times in the microcomputer industry, with mixed success. The best known attempt was the UCSD p-System. *See also* pseudomachine, UCSD p-System. **2.** Any informal, transparent notation in which a program or algorithm description is written. Many programmers write their programs first in a pseudocode

round \round\ *vb.* To shorten the fractional part of a number, usually increasing the last remaining (rightmost) digit or not, according to whether the deleted portion was over or under 5. For example, 0.3333 rounded to two decimal places is 0.33, and 0.6666 is 0.67. Computer programs often round numbers, sometimes causing confusion when the resulting values do not add up "correctly." Percentages in a spreadsheet can thus total 99 percent or 101 percent because of rounding.

round robin \round` rob´in\ *n.* A sequential, cyclical allocation of resources to more than one process or device.

routable protocol \rou´tə-bl pro`tə-kol, rōō´tə-bl\ *n.* A communications protocol that is used to route data from one network to another by means of a network address and a device address. TCP/IP is an example of a routable protocol.

router \rou´tər\ *n.* An intermediary device on a communications network that expedites message delivery. On a single network linking many computers through a mesh of possible connections, a router receives transmitted messages and forwards them to their correct destinations over the most efficient available route. On an interconnected set of local area networks (LANs) using the same communications protocols, a router serves the somewhat different function of acting as a link between LANs, enabling messages to be sent from one to another. *See also* bridge, gateway.

routine \rōō-tēn´\ *n.* Any section of code that can be invoked (executed) within a program. A routine usually has a name (identifier) associated with it and is executed by referencing that name. Related terms (which may or may not be exact synonyms, depending on the context) are *function, procedure,* and *subroutine. See also* function (definition 3), procedure, subroutine.

row \rō\ *n.* A series of items arranged horizontally within some type of framework—for example, a continuous series of cells running from left to right in a spreadsheet; a horizontal line of pixels on a video screen; or a set of data values aligned horizontally in a table. *Compare* column.

RPC \R`P-C´\ *n. See* remote procedure call.

RPF \R`P-F´\ *n. See* reverse path forwarding.

RPN \R`P-N´\ *n.* Acronym for reverse Polish notation. *See* postfix notation.

RPROM \R´prom, R`P´rom, R`P-R`O-M´\ *n.* Short for reprogrammable **PROM.** *See* EPROM.

RRSP \R`R-S-P´\ *n. See* Resource Reservation Setup Protocol.

RS-232-C standard \R`S-tōō-thrē-tōō-C´ stan`-dərd\ *n.* An accepted industry standard for serial communications connections. Adopted by the Electrical Industries Association, this Recommended Standard (RS) defines the specific lines and signal characteristics used by serial communications controllers to standardize the transmission of serial data between devices. The letter *C* denotes that the current version of the standard is the third in a series. *See also* CTS, DSR, DTR, RTS, RXD, TXD.

RS-422/423/449 \R`S-fōr-tōō-tōō`fōr-tōō-thrē`fōr-fōr-nīn´\ *n.* Standards for serial communications with transmission distances over 50 feet. RS-449 incorporates RS-422 and RS-423. Macintosh serial ports are RS-422 ports. *See also* RS-232-C standard.

RSAC \R´sak, R`S-A-C´\ *n. See* Recreational Software Advisory Council.

RSA encryption \R-S-A´ en-krip`shən\ *n.* Short for **Rivest-Shamir-Adleman encryption.** The patented public key encryption algorithm, introduced by Ronald Rivest, Adi Shamir, and Leonard Adleman in 1978, on which the PGP (Pretty Good Privacy) encryption program is based. *See also* PGP, public key encryption.

RSI \R`S-I´\ *n. See* repetitive strain injury.

RSN \R`S-N´\ *See* Real Soon Now.

RSVP \R`S-V-P´\ *n. See* Resource Reservation Setup Protocol.

RTF \R`T-F´\ *n. See* Rich Text Format.

RTFM \R`T-F-M´\ Acronym for **read the flaming** (or friendly) **manual.** A common answer to a question in an Internet newsgroup or product support conference that is adequately explained in the instruction manual. *Also called* RTM.

RTM \R`T-M´\ Acronym for **read the manual.** *See* RTFM.

RTS \R`T-S´\ *n.* Acronym for **Request to Send.** A signal sent, as from a computer to its modem, to request permission to transmit; the signal is often used in serial communications. RTS is a hardware signal sent over pin 4 in RS-232-C connections. *See also* RS-232-C standard. *Compare* CTS.

and forth between two or more programs. *See also* task, task swapping. *Compare* multitasking.

TB \T-B´\ *n.* *See* terabyte.

.tc \dot˙T-C´\ *n.* On the Internet, the major geographic domain specifying that an address is located on the Turks and Caicos Islands.

T-carrier \T´kar˙ē-ər\ *n.* A long-distance, digital communications line provided by a common carrier. Multiplexers at either end merge several voice channels and digital data streams for transmission and separate them when received. T-carrier service, introduced by AT&T in 1993, is defined at several capacity levels: T1, T2, T3, T4. In addition to voice communication, T-carriers are used for Internet connectivity. *See also* T1, T2, T3, T4.

Tcl/Tk \tik˙l-T-K´\ *n.* Acronym for **T**ool **C**ommand **L**anguage/**T**ool **K**it. A programming system that includes a scripting language (Tcl) and a graphical user interface toolkit (Tk). The Tcl language issues commands to interactive programs, such as text editors, debuggers, and shells, which tie together complex data structures into scripts. *See also* graphical user interface, script, scripting language.

TCM \T˙C-M´\ *n.* *See* trellis-coded modulation.

TCP \T˙C-P´\ *n.* Acronym for **T**ransmission **C**ontrol **P**rotocol. The protocol within TCP/IP that governs the breakup of data messages into packets to be sent via IP, and the reassembly and verification of the complete messages from packets received by IP. TCP corresponds to the transport layer in the ISO/OSI model. *See also* ISO/OSI model, packet, TCP/IP. *Compare* IP.

TCP/IP \T˙C-P˙I-P´\ *n.* Acronym for **T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol. A protocol developed by the Department of Defense for communications between computers. It is built into the UNIX system and has become the de facto standard for data transmission over networks, including the Internet.

TCP/IP stack \T˙C-P-I-P´ stak˙\ *n.* The set of TCP/IP protocols. *See also* protocol stack, TCP/IP.

.td \dot˙T-D´\ *n.* On the Internet, the major geographic domain specifying that an address is located in Chad.

TDM \T˙D-M´\ *n.* *See* time-division multiplexing.

tear-off \ter´of\ *adj.* Capable of being dragged from an original position in a graphical user interface and placed where the user desires. For example, many graphics applications feature tear-off menus of tool palettes that can be dragged to locations other than the menu bar.

techie \tek´ē\ *n.* A technically oriented person. Typically, a techie is the person on whom a user calls when something breaks or the user cannot understand a technical problem. A techie may be an engineer or a technician, but not all engineers are techies. *See also* guru.

technical author \tek´ni-kəl ä˙thər, ô˙thər\ *n.* *See* tech writer.

technology \tek-nol´ə-jē˙\ *n.* The application of science and engineering to the development of machines and procedures in order to enhance or improve human conditions, or at least to improve human efficiency in some respect. *See also* high tech.

technophile \tek´nə-fīl˙\ *n.* Someone who is enthusiastic about emerging technology. *Compare* computerphile.

tech writer \tek´ rī˙tər\ *n.* Short for technical writer. One who writes the documentation material for a hardware or software product. *Also called* technical author. *See also* documentation.

telco \tel´kō\ *n.* Short for **tel**ephone **co**mpany. A term generally used in reference to a telephone company's provision of Internet services.

telecommunications \tel˙ə-kə-myōō˙nə-kā´-shənz\ *n.* The transmission and reception of information of any type, including data, television pictures, sound, and facsimiles, using electrical or optical signals sent over wires or fibers or through the air.

telecommute \tel˙ə-kə-myōōt´\ *vb.* To work in one location (often at home) and communicate with a main office at a different location through a personal computer equipped with a modem and communications software.

teleconferencing \tel´ə-kon˙frən-sēng\ *n.* The use of audio, video, or computer equipment linked through a communications system to enable geographically separated individuals to participate in a meeting or discussion. *See also* video conferencing.

telecopy \tel˙ə-kop˙ē\ *vb.* *See* fax.

telematics \tel˙ə-mat´iks\ *n.* In communications technology, the linking of computers and telecommunications.

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matical formulas, create and print form letters, perform calculations, display documents in multiple on-screen windows, and enable users to record macros that simplify difficult or repetitive operations. *Compare* editor, line editor.

wordwrap or **word wrap** \wərd´rap\ *n.* The ability of a word processing program or a text-editing program to break lines of text automatically to stay within the page margins or window boundaries of a document without the user having to do so with carriage returns, as is typically necessary on a typewriter. *See also* hard return, soft return.

workaround \wərk´ə-round`\ *n.* A tactic for accomplishing a task, despite a bug or other inadequacy in software or hardware, without actually fixing the underlying problem. *See also* kludge.

workbook \wərk`bo͝ok\ *n.* In a spreadsheet program, a file containing a number of related worksheets. *See also* worksheet.

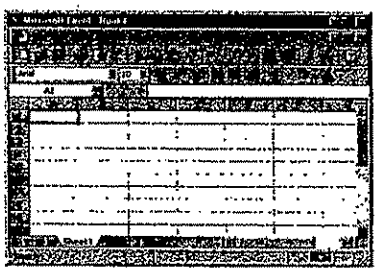
workflow application \wərk´flō a-plə-kā`shən\ *n.* A set of programs that aids in the tracking and management of all the activities in a project from start to finish.

workgroup \wərk´gro͞op\ *n.* A group of users working on a common project and sharing computer files, often over a local area network. *See also* groupware.

workgroup computing \wərk´gro͞op kəm-pyo͞o`-tĕng\ *n.* A method of working electronically in which various individuals on the same project share resources and access to files using a network arrangement, such as a local area network, enabling them to coordinate their separate tasks. This is accomplished through using software designed for workgroup computing. *See also* groupware.

Workplace Shell \wərk´plās shel`\ *n.* The graphical user interface of OS/2. Like the Mac OS and Windows 95, the Workplace Shell is document-centric. Document files are displayed as icons; clicking on an icon starts the corresponding application, and the user can print a document by dragging the document's icon to a printer icon. The Workplace Shell uses the graphical functions of Presentation Manager. *Acronym:* WPS (W`P-S`).

worksheet \wərk´shēt\ *n.* In a spreadsheet program, a page organized into rows and columns appearing on screen and used for constructing a single table. See the illustration.



Worksheet.

workstation \wərk´stā`shən\ *n.* **1.** A combination of input, output, and computing hardware that can be used for work by an individual. **2.** A powerful stand-alone computer of the sort used in computer-aided design and other applications requiring a high-end, usually expensive, machine with considerable calculating or graphics capability. **3.** A microcomputer or terminal connected to a network.

World Wide Web or **World-Wide Web** \wərld` wīd web´\ *n.* The total set of interlinked hypertext documents residing on HTTP servers all around the world. Documents on the World Wide Web, called pages or Web pages, are written in HTML (Hypertext Markup Language), identified by URLs (Uniform Resource Locators) that specify the particular machine and pathname by which a file can be accessed, and transmitted from node to node to the end user under HTTP (Hypertext Transfer Protocol). Codes, called tags, embedded in an HTML document associate particular words and images in the document with URLs so that a user can access another file, which may be halfway around the world, at the press of a key or the click of a mouse. These files may contain text (in a variety of fonts and styles), graphics images, movie files, and sounds as well as Java applets, ActiveX controls, or other small embedded software programs that execute when the user activates them by